

HS3 Science Meeting
May 5 – 7, 2015
NASA Research Park, Moffett Field, CA

Tuesday May 5

8:00-8:10 Greeting/Mission Status Overview Braun

8:10-9:40 Overview from each instrument team (Chair: Braun)
(12 min each + 3 for questions). Presentations should include: Status of data processing and any open issues.

Environmental

- CPL Hlavka
- AVAPS dropsondes Hock
- S-HIS Revercomb

Overstorm

- HIWRAP Heymsfield
- HIRAD Cecil
- HAMSR Lambrigtsen

9:40-10:10 BREAK

10:10-11:50 Science Team Member Presentations *(15 min each + 5 for questions)*
(Chair: Halverson)

- The Controversy regarding HS3 surface pressure observations during the rapid intensification of Edouard on September 14-15 Braun
- Intensity change and possible unusual eye wall replacement cycle of Edouard between 14-15 September Zipser
- Multiscale kinematic structure and evolution of Hurricane Edouard from 14-16 September using Global Hawk dropsondes and P-3 airborne Doppler radar Rogers
- On the dynamics of secondary eyewall formation in Hurricane Edouard Montgomery
- Edouard secondary eyewall dynamics as captured by NASA HS3 dropsonde observations Abarca

11:50-1:30 LUNCH

1:30-3:10 Science Team Member Presentations *(15 min each + 5 for questions)*
(Chair: Newman)

- Precipitation evolution over 4 days with respect to the shear vector [using lightning, radar, and passive microwave data] during Edouard's intensification Alvey
- Hurricane Nadine's interaction with the SAL as seen in

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| observations and COAMPS-TC simulations | Hence |
| • Exploring dust impacts on tropical systems from the NASA HS3 field campaign | Nowottnick |
| • Observations and modeling of Saharan dust interaction with Hurricane Nadine (2012) | Braun |
| • Warm core and vortex analysis for HS3 case studies elucidated from GH dropsonde data | Halverson |
| 3:10-4:30 Posters + break | |
| • Evaluation of Tropical Cyclone Inner Core Precipitation Properties using Passive Microwave (1998 - 2012) | Alvey |
| • Comparison of reanalyses and observations over the Atlantic with respect to Tropical Storms | Brammer |
| • Three-year analysis of S-HIS dual-regression retrievals using collocated AVAPS and CPL measurements | DeSlover |
| • Lifecycle of Hurricane Nadine (2012) | Dunkerton |
| • Dropsonde and CPL Observations of Tropical Cyclone Cirrus Structure | Duran |
| • Assessing the sensitivity of the tropical cyclone secondary circulation to perturbed outflow via idealized COAMPS-TC simulations | Komaromi |
| • Tropical cyclone characteristics as revealed by WWLLN, GRIP, and HS3 data | Stevenson |
| • Simulations of the 24-25 August 2013 SAL event | Z. Tao |
| • Scanning High-resolution Interferometer Sounder (S-HIS) Radiometric Calibration and Performance During HS3 | Taylor |
| • Summary of Tropical Cyclone Cloud-Top Products and Analyses from Satellite during the HS3 Project | Velden/Griffin |
| • Composite analysis of cloud structures in tropical cyclones observed by CloudSat | Wu |
| • The thermodynamic and kinematic lifecycle of Hurricane Edouard as seen by dropsonde observations | Zawislak |
| 4:30-5:30 Science Team Member Presentations (<i>15 min each + 5 for questions</i>) (Chair: Heymsfield) | |
| • GHRC HS3 Data Archive | Maskey |
| • SHOUT | Wick |
| • The final two MDR flights of 2014 | M. Black/Dunion |
| 5:30 End of Session for Day 1 | |

Wednesday May 6

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| 8:00-9:40 Science Team Member Presentations (<i>15 min each + 5 for questions</i>) (Chair: Zipser) | |
| • On the intensity change of Hurricane Earl (2010) | D-L Zhang |

- Study of Hurricane Edouard of September 2014 using data assimilation and prediction experiments using a cloud-resolving model Krishnamurti
- Predictability and dynamics of the rapid intensification of Hurricane Edouard (2014) evaluated through convection-permitting ensemble forecasts F. Zhang
- Observations of the TC Diurnal Cycle during Hurricane Edouard J. Dunion
- Tropical cyclone diurnal cycle as seen by TRMM D. Cecil

9:40-10:10 BREAK

10:10-11:50 Science Team Member Presentations (*15 min each + 5 for questions*)
(Chair: Velden)

- Characterizing the evolution of Hurricane Karl (2010) through analysis of high-resolution Doppler radar data DeHart/Houze
- Summary of hurricane outflow jet structure derived from GH dropsonde observations during HS3 (2012-14) P. Black
- Hurricane outflow, initial condition sensitivity, and HS3 observation impact J. Doyle
- Use of HS3 data for understanding the tropical cyclone outflow layer Molinari/Corbosiero
- Tropical cyclone interaction with an upper level cold core low Nava/Fovell

11:50-1:30 LUNCH

1:30-3:10 Science Team Member Presentations (*15 min each + 5 for questions*)
(Chair: Rogers)

- Lagrangian flow boundaries divide cyclones and nearby dry air Rutherford
- HIWRAP observations of Hurricane Gonzalo Didlake
- The influence of environmental moisture variability on tropical cyclogenesis associated with African easterly waves Thorncroft
- Real-time assimilation of Global Hawk dropsonde observations for improved hurricane track and intensity forecasts from NCEP's operational HWRF model Sippel
- Atmospheric profiles from SHIS during the HS3 field campaigns—retrieval technique and results Smith

3:10-3:40 BREAK

3:40-5:00 Science Team Member Presentations (*15 min each + 5 for questions*)

(Chair: Thorncroft)

- HIWRAP analysis of HS3 and GRIP data with a focus on the RI of Hurricane Karl (2010)
- A dropsonde-based analysis of the genesis of Tropical Storm Gabrielle (2013)
- Mesoscale convective mass flux in tropical cyclones
- Moisture and vorticity budgets in tropical cyclones calculated from HS3 dropsonde data

Guimond

Helms

Gjorgjievska/Raymond

Juracic

5:00-5:30 Discussion
Publications
AMS special issue
HS3 close-out review

Braun/Newman

5:30 End of Meeting

Thursday May 7

SHOUT Meeting (half day)